

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all previous claims, and listings of claims, in the application:

1. (Currently Amended) A method of increasing inducing homologous recombination between a gene and a DNA sequence comprising the step of controlling transcription of the gene using a transcription promoter located 3' to the DNA sequence, similar to the gene

wherein said recombination occurs at a genetic locus in a eukaryotic somatic cell wherein the homologous recombination is occurring at a genetic locus,

wherein the gene is located 3' to the promoter; and

wherein the DNA sequence is similar to the gene for which homologous recombination is induced.

wherein the DNA sequence is upstream on the 5' side of the gene[[:]]

wherein a transcription promoter is located downstream on the 3' side of the DNA sequence for controlling the transcription of a gene at the genetic locus; and

the method comprising a step of controlling transcription of the gene induces homologous recombination between the the DNA sequence.

2. (Previously Presented) The method of claim 1, wherein the cell is a DT40 cell.
3. (Cancelled)

4. (Currently Amended) The method of claim 1, wherein ~~the controlling transcription of the gene involves is under additional transcription control by~~ a cis-acting region comprising an enhancer [[;]] or a nuclear matrix attachment region (MAR), or both.

5. (Currently Amended) The method of claim 1, wherein the gene and the DNA sequence are exogenous, comprising the following steps:

(a) ordering orienting on a vector beginning with from the 5' end side, the DNA sequence, the transcription promoter 3' to the DNA sequence, and the gene at the 3' to the transcription promoter side,

~~wherein the transcription promoter is capable of controlling the gene;~~

(b) introducing the vector into a cell; and

(c) incorporating the DNA sequence, the transcription promoter, and the gene into a chromosome.

6. (Currently Amended) The method of claim 5, wherein the vector further comprises ~~an~~ enhancer or ~~the-a~~ nuclear matrix attachment region (MAR), or both, ~~are inserted into the vector affecting the action of the transcription promoter.~~

7. (Previously Presented) The method of claim 5, wherein the transcription promoter is an inducible promoter.

8. (Previously Presented) The method of claim 7, wherein the inducible promoter is a tetracycline inducible promoter.

9. (Previously Presented) The method of claim 5, wherein the gene is an enhanced cyan fluorescent protein (ECFP) gene.

10. (Currently Amended) The method of claim 5, wherein the DNA sequence comprising a base sequence similar to the gene is an enhanced green fluorescent protein (EGFP) genetic sequence.

11. (Previously Presented) The method of claim 4, wherein the enhancer is a chicken antibody light chain gene enhancer (3' enhancer), and the nuclear matrix attachment region (MAR) is chicken-derived.

12. (Currently Amended) A cell, wherein homologous recombination has been induced according to the method of claim 1.

13. (Currently Amended) A recombinant gene produced by increased homologous recombination induced according to the method of claim 1.

14. (Withdrawn – Previously Presented) The recombinant gene of claim 13, wherein the recombinant gene encodes a protein.

15. (Currently Amended) A vector for inducing homologous recombination between a gene and a DNA sequence, comprising a transcription promoter for controlling transcription of the gene, wherein said gene, said DNA sequence, and said promoter are arranged in an order beginning with the DNA sequence, a—gene; a the transcription promoter 3' to the DNA sequence, for controlling transcription of the gene, and the gene 3' to the transcription promoter[[:] and a DNA sequence similar to the gene;

wherein the DNA sequence is similar to the gene for which homologous recombination is induced.

wherein the DNA sequence is upstream on the 5' side of the transcription promoter, and

wherein orienting on the vector beginning from the 5' side, the DNA sequence, the transcription promoter, and the gene at the 3' side on the vector induces homologous recombination between the gene and the DNA sequence.

16. (Currently Amended) The vector of claim 15, further comprising wherein one or both of

- i) an enhancer that is located 3' or 5' to the gene; or and
- ii) a nuclear matrix attachment region (MAR) that is located 3' or 5' to the gene; or
- iii) both, wherein the enhancer is located 3' or 5' to the gene, and wherein the MAR is located 3' or 5' to the enhancer.

are inserted into the vector affecting the action of the transcription promoter.

17. (Previously Presented) The method of claim 1, wherein the transcription promoter is an inducible promoter.

18. (Previously Presented) The method of claim 17, wherein the inducible promoter is a tetracycline inducible promoter.

19. (Previously Presented) The method of claim 1, wherein the gene is an enhanced cyan fluorescent protein (ECFP) gene.

20. (Currently Amended) The method of claim 1, wherein the DNA sequence similar to the gene is an enhanced green fluorescent protein (EGFP) genetic sequence.

21. (Previously Presented) The method of claim 6, wherein the enhancer is a chicken antibody light chain gene enhancer (3' enhancer), and the nuclear matrix attachment region (MAR) is chicken-derived.

22. (Previously Presented) The method of claim 4, wherein the cell is a DT40 cell.

23. (Previously Presented) The method of claim 5, wherein the cell is a DT40 cell.

24. (Currently Amended) A cell, wherein homologous recombination has been induced increased according to the method of claim 4.

25. (Currently Amended) A cell, wherein homologous recombination has been induced
increased according to the method of claim 5.